

BRCS070P03YBQ

Rev.A Oct.-2023

DATA SHEET

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Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Drain Current - Continuous	$I_D(T_c=25^\circ\text{C})$	-45	A	
Drain Current – Pulsed	I_{DM}	-126	A	
Gate-Source Voltage	V_{GS}	20	V	
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	30	W	
Single Pulse Avalanche Energy(L=0.5mH)	E_{AS}	360	mJ	
Avalanche Current(L=0.5mH)	I_{AS}	-30	A	
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150		
Thermal resistance, junction - ambient	t 10s	J_A	22	/ W
	Steady-State		55	
Thermal resistance, junction - case	Steady-State	R_{JC}	4.17	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\mu\text{A}$ $V_{GS}=0\text{V}$	-30	-33		V

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V$ $V_{DS}=-15V$ $R_L=0.75$ $R_{GEN}=3$		12.5		ns
Turn-On Rise Time	t_r			19		
Turn-Off Delay Time	$t_{d(off)}$			125		
Turn-Off Fall Time	t_f			67		

/ Electrical Characteristic Curve

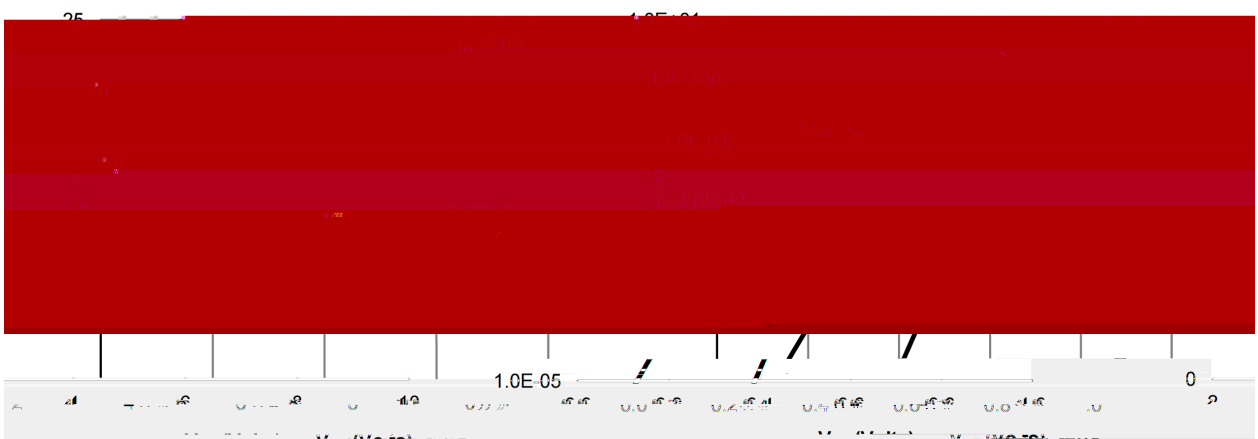
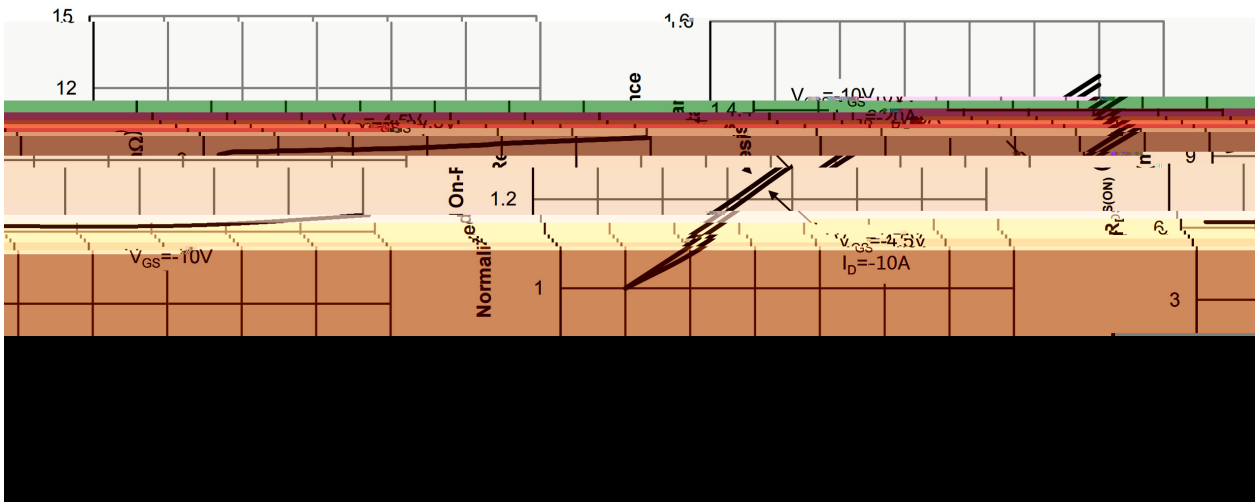
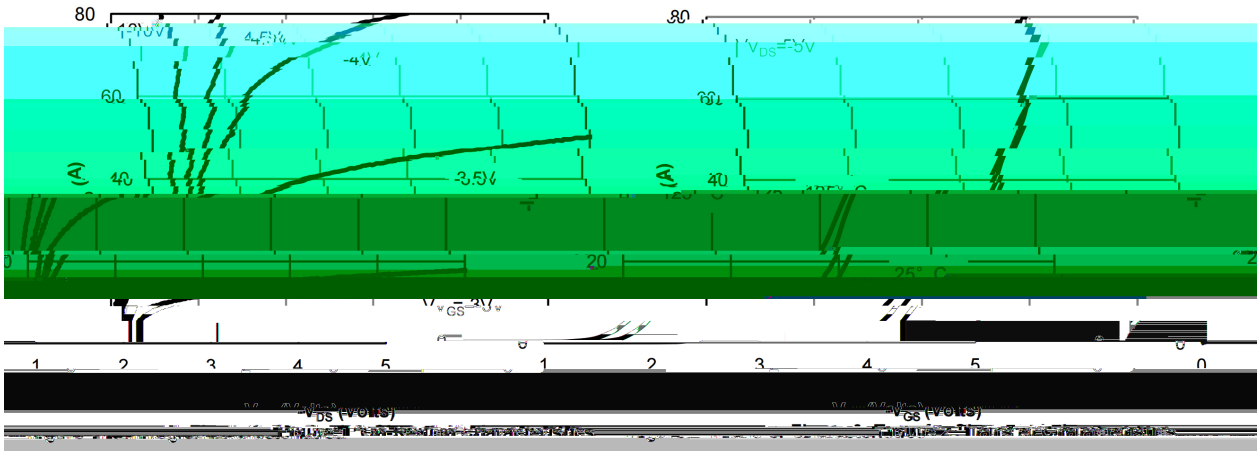
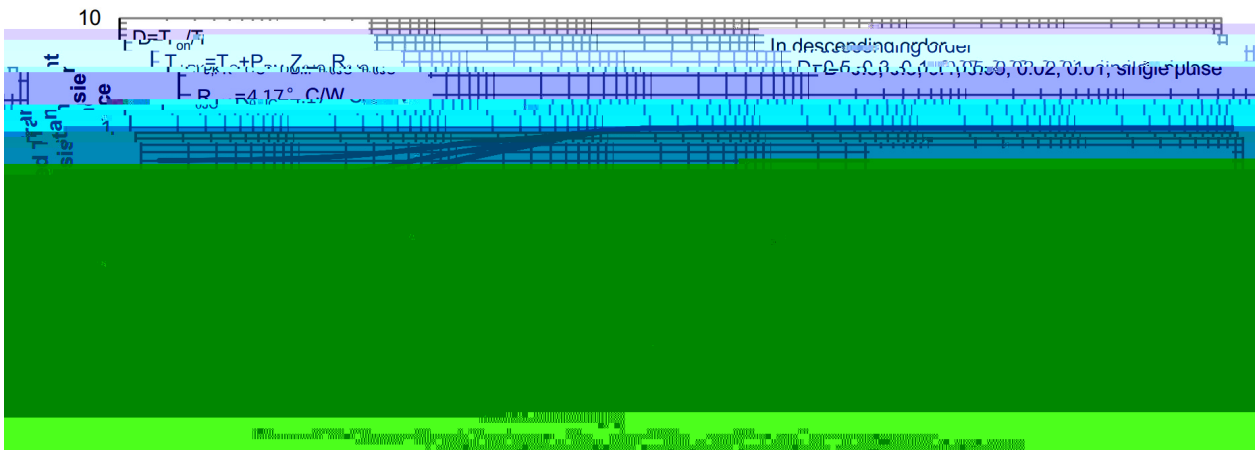
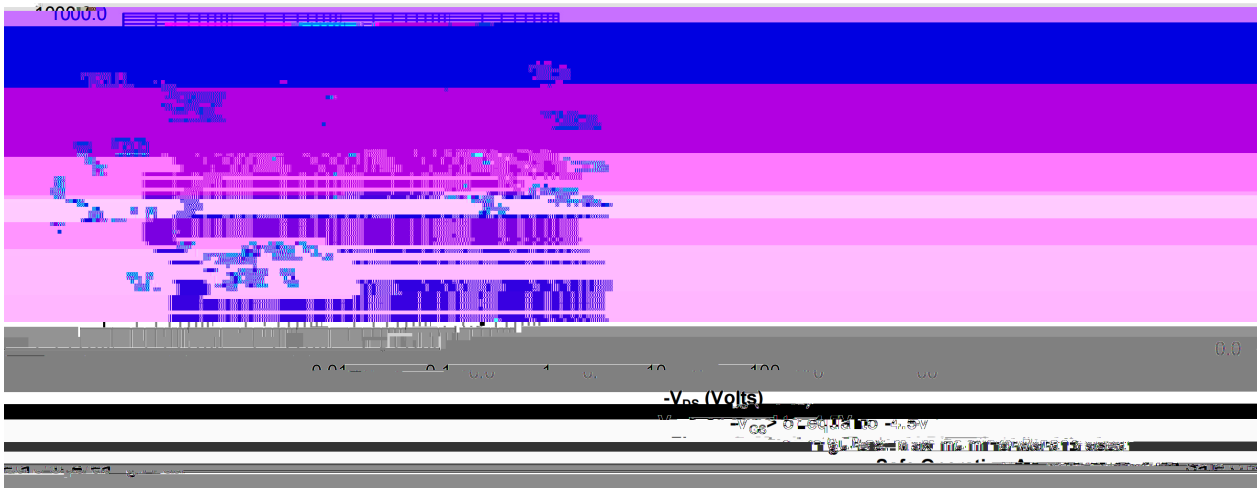
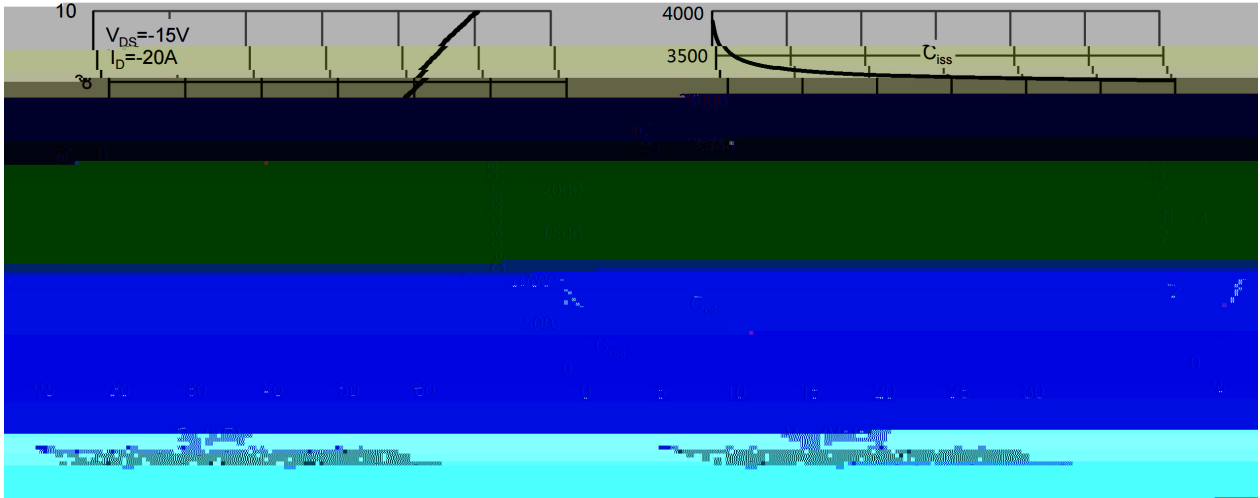


Figure 4: Drain Current vs. Drain-Source Voltage Figure 5: On-Resistance vs. Gate-Source Voltage Figure 6: Body-Diode Forward Characteristics

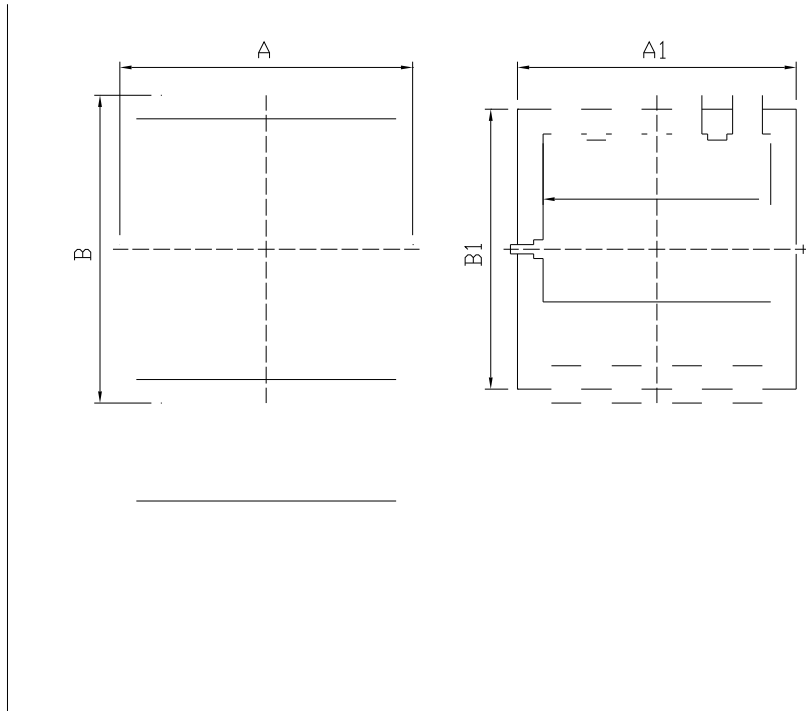
/ Electrical Characteristic Curve



/ Package Dimensions

PDFN3X3A-8L

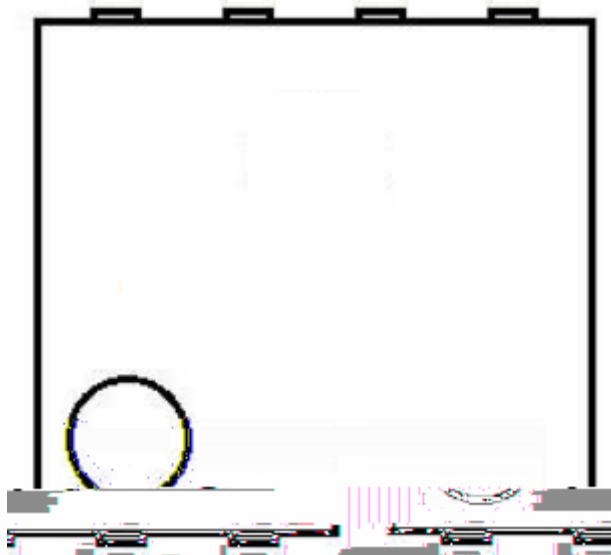
Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	3.20	3.30	3.40
A1	3.10	3.15	3.20
B	3.20	3.30	3.40
B1	2.95	3.00	3.05
C	0.75	0.80	0.85
L	0.25	0.30	0.35
L1	-	-	0.75
L2	0.55	0.65	0.75
L4	0.14	0.15	0.20
a	2.35	2.45	2.55
b	1.635	1.735	1.835

Rev.00 202011

/ Marking Instructions



BR

Q

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Note:

BR: Company Code

Q: Automobile halogen-free product Code

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | |
|---|---------|------------|---|
| 1 | 150 200 | 60 120sec; | 1.Preheating:150~200 , Time:60~120sec. |
| 2 | 255..5 | 5..0.5sec; | 2.Peak Temp.:255..5 , Duration:5..0.5sec. |
| 3 | 2 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260..5	10..1 sec.	Temp.:260..5	Time:10..1 sec
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/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box